dunetpc - Feature #19217

Impliment the DUNE Radiological model for the dunedphase10kt geometry.

03/03/2018 09:48 PM - Jason Stock

Status:	Closed	**Start date:**	03/03/2018
Priority:	High	**Due date:**	
Assignee:	Jason Stock	**% Done:**	0%
Category:		**Estimated time:**	0.00 hour
Target version:			

Description

The DAQ group is requesting the dune radiological model be implemented for the dual phase detectors. This is a high priority for the DAQ group to be able to build data rate estimates.

This should be done for the 4x2 workspace first for simulation efficiency.

I have already pulled a view values from the 10kt 4x2 gdml that will be needed to build the radiological model.

LAr boundaries:
X: -800, 600
Y: -400, 400
Z: -100, 1300

Cathode:
X: -600
Y: -300, 300
Z: 0 1200

Field Cage: Wraps Cathode and APAs
X: -600, 600
Y: -300, 300
Z: 0, 1200

I recommend only simulating the contaminants that will be in LAr or submerged in LAr for the first pass DP Radiological model.

History

#1 - 03/03/2018 10:33 PM - Jason Stock

First pass model available on branch feature/JStock_DPModel as radiological_gen_dunedp10kt_4x2workspace.fcl
This is the model, but will not add the provided generators to your simulation. Each generator must be added to the simulate list by the user before they can be useful.

#2 - 03/03/2018 10:34 PM - Jason Stock

- Status changed from New to Work in progress

A first implementation is available on my provided feature branch.

#3 - 05/31/2018 02:03 PM - Jason Stock

This was held up due to testing in the Dual Phase geometries showing that no radiologicals were being produced.

After working with Beatriz Tapia, we determined that the gdmls for all dual phase geometries were not implemented correctly, resulting in the geometry service thinking the inside of the TPC was STEEL. Our debugging and findings were then passed on to Jose Soto. Jose has now updated all DP geometries so that they will be read correctly. This issue can move forward again.

#4 - 11/09/2018 09:29 AM - Jason Stock

- Status changed from Work in progress to Resolved

The bulk contaminants are now implemented for the DPhase detector.

#5 - 02/19/2019 03:17 PM - Jason Stock

- Status changed from Resolved to Closed